

Undescribed Species of Crane-flies from the Eastern United States and Canada (Dipt.: Tipulidae). Part VIII

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The preceding part under this general title was published in ENTOMOLOGICAL NEWS, vol. 52: 192-196; 1941. At this time I am describing two interesting species collected by Mr. P. W. Fattig in Georgia. These specimens were included in materials sent for identification to the United States National Museum and the types of the novelties are preserved in that institution. I am much indebted to Mr. Fattig and to Dr. Alan Stone for the privilege of examining these flies.

Tipula (Lunatipula) fattigiana new species

Belongs to the *bicornis (fascipennis)* group; male hypopygium with the tergite relatively tumid, at apex produced into two subpendulous, slightly flattened, dark-colored lobes; apex of the region of the basistyle roughened and toothed; dististyle with both the rostral portion and the outer basal lobe unusually slender and spiniform; eighth sternite sheathing, narrowed outwardly, at apex with three brushes of setae, the lateral pair longer and interspersed with a few stronger bristles.

♂. Length about 19 mm.; wing 19 mm.

Frontal prolongation of head brownish yellow; nasus lacking; palpi with basal segment yellow, the outer segments broken. Antennae broken. Head light brown, yellowish gray pruinose.

Pronotum brown. Mesonotum chiefly light testaceous brown, covered with a yellow pollen, the usual praescutal stripes apparently lacking or very poorly indicated (the thorax of the unique type is badly damaged by pinning). Pleura yellow, sparsely pruinose. Halteres brown, the base of stem narrowly yellow. Legs with the coxae yellow, sparsely pruinose; trochanters yellow; remainder of legs obscure yellow, the outer tarsal segments dark brown; claws (male) toothed. Wings relatively broad, strongly tinged with brown, the prearcular and

costal fields somewhat more yellow; stigma darker brown; obliterative area before cord very conspicuous, extending from before stigma through cell *1st M*₂, narrowed over the anterior cord, involving vein *M*₃ but scarcely entering cell *M*₃; no post-stigmal brightening; veins brownish yellow, paler in the obliterative portions. Venation: *Rs* nearly twice *m-cu*; cell *1st M*₂ small, pentagonal; basal section of *M*₃ and *m* almost in a straight line and virtually parallel with the basal section of *M*₁₊₂; cell *M*₁ a little more than twice its petiole; *m-cu* near extreme base of vein *M*₄.

Abdominal tergites brownish yellow, with a conspicuous median, dark brown stripe, very narrow on the more basal segments, broadened behind, vaguely interrupted by pale posterior borders to the segments; lateral tergal borders entirely pale; sternites obscure reddish yellow; hypopygium chiefly dark brown, the eighth sternite more brownish yellow. Male hypopygium large; ninth tergite widely separated from the sternite-basistyle by pale membrane; basistyle chiefly indicated by its ventral suture only. Ninth tergite relatively tumid, at central apex produced into two subpendulous, slightly flattened, darkened lobes that are provided with conspicuous white setae; viewed from above, these lobes are seen to lie close together, being separated only by a linear notch; tergite viewed from the side with its ventro-caudal portion produced into two more compressed-flattened black lobes that are subcircular in outline. Apical margin of basistyle roughened and toothed, the most conspicuous point being a dorsal flattened blade that terminates in an acute tooth. Dististyle with both the rostral portion and the outer basal lobe unusually slender, the latter spinous; style clothed with conspicuous erect white setae. Appendage of ninth sternite appearing as a conical spine, its tip acute, the dorsal margin fringed with long yellow setae; on the mesal aspect, these setae very long, directed mesad, their apices conspicuously crinkly. Eighth sternite sheathing, narrowed outwardly, at apex bearing three groups of setae, two lateral and one median, the former longer, the setae interspersed with a few still longer and stouter bristles; median brush shorter.

Habitat.—GEORGIA. *Holotype*: ♂, Atlanta, June 1, 1941 (P. W. Fattig); Collector's No. 6.

I am greatly pleased to dedicate this conspicuous fly to Mr. Fattig whose detailed collecting and published studies have added materially to our knowledge of the insect fauna of our southeastern states. The fly is most similar to *Tipula (Lunatipula) megaura* Doane, 1901, differing from this and all other members of the group by the structure of the male hypopygium, notably of the tergite, basistyle, and dististyle.

***Limnophila (Eutonia) phorophragma* new species**

Allied to *alleni*; mesonotal praescutum with the disk deep cinnamon brown, with darker brown stripes; wings with a strong supernumerary crossvein in cell R_5 , connecting posteriorly with vein M_1 ; abdomen (female) elongate, the intermediate segments longer than broad.

♀. Length about 29–36 mm.; wing 18.5–23 mm.; abdomen alone, about 22–28 mm.

Rostrum dark brown; palpi brownish black. Antennae with scape and pedicel brownish black, the flagellum abruptly obscure yellow, the outer two or three segments infuscated; basal flagellar segments subglobular to short-oval, the outer ones passing into elongate, with long conspicuous verticils. Head brown, variegated with pruinose patches, strongly narrowed behind.

Pronotum grayish, more fulvous dorsally, the mid-area deepening to brown. Mesonotal praescutum with the disk deep cinnamon brown, including the interspaces, the area variegated by darker lines, most distinct as intermediate stripes in front and as a median darkening at suture, the lateral borders of the discal area again deepening to brown; humeral and lateral praescutal borders gray, internally passing into orange adjoining the discal area; pseudosutural foveae castaneous; scutum cinnamon brown, each lobe on central and lateral portions variegated with darker brown, the latter a backward continuation of the lateral discal borders of praescutum; scutellum fulvous brown, the broad posterior border and a delicate median vitta darker brown; mediotergite in center fulvous, more infuscated and

slightly pruinose around the borders, in cases more uniformly brown; pleurotergite brown. Pleura whitish gray pruinose over a light brown to fulvous brown background, where the pruinosity is rubbed exposing much of the ground; darker brown areas on dorsopleural membrane and below and before the wing-root. Halteres obscure yellow, the knob not darkened. Legs with the coxae light gray pruinose, weakly infuscated on outer faces; trochanters obscure yellow; femora obscure yellow, the tips broadly blackened, the amount subequal on all legs; fore legs with a further dark medial ring, broader but slightly less intense than the apex; tibiae yellow, tips narrowly blackened; tarsi obscure yellow, the outer segments brownish black. Wings chiefly fulvous, variegated with paler fulvous and brown areas; the dark pattern appears as large areas in bases of cells *R* and *M*, virtually confluent with a quadrate mark at origin of *Rs*; anterior cord and fork of R_{2+3+4} ; cell *C* uniformly darkened; more restricted brown clouds along posterior cord, outer end of cell *1st M*₂, the supernumerary crossvein in cell *R*₅, at near midlength of cells *Cu* and *1st A*; centers of the more posterior cells and the axillary border even less distinctly clouded; stigma oval, pale yellow; veins yellow, darker in the clouded areas. Venation: A supernumerary crossvein in cell *R*₅, connecting vein *R*₅ at just beyond midlength with *M*₁, about its own length beyond the fork.

Abdomen elongate, as shown by the measurements, segments two to seven, inclusive, being longer than broad; tergites orange, with a nearly continuous brown median vitta beginning on the third tergite, extending through the seventh; very narrow lateral tergal darkenings; outer tergites more darkened and slightly pruinose; sternites light yellow, with three narrow longitudinal brown stripes, the median one interrupted at posterior border of the segments, the lateral pair more continuous; outer sternites slightly more pruinose. Ovipositor with cerci dark brown basally, paling to horn yellow outwardly.

Habitat.—GEORGIA. *Holotype*: ♀, Lakemont, Rabun Co., June 5, 1940, at light (P. W. Fattig). *Paratopotype*: ♀; in Alexander Collection. An additional female from the moun-

tains of western NORTH CAROLINA, collected by H. K. Morrison (Cornell University Collection); see Alexander, Amer. Midl. Nat., 26: 304-305; 1941, as *alleni* Johnson.

This species has been known to me from the fragmentary specimen from western North Carolina, mentioned above. The receipt of this further material indicates a distinct species which, while allied to *Limnophila* (*Eutonia*) *alleni* Johnson, 1909, is distinguished by the elongate abdomen, the supernumerary crossvein in cell R_5 , and the coloration of the mesonotum. In *alleni*, the ground color of the praescutum is gray, strongly delimiting four dark brown stripes; there is no supernumerary crossvein in any cell of the wing, and abdominal segments three to six are wider than long, in conformance to the much shorter abdomen. The distribution of *alleni* as given by the author in the "Diptera of Connecticut," p. 390; 1943, is correct,—New Hampshire, Vermont, New York and Ohio. All records from the southeastern United States will presumably be found to refer to the present fly.

New Aphodius from Texas Gopher Burrows *

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Descriptions of six undescribed species of *Aphodius* together with brief notes on these and one previously known species are presented in the following. All specimens were collected by E. S. Ross and A. J. Kirn from the burrows of the pocket gopher, *Geomys breviceps atwateri* Merriam, $7\frac{1}{2}$ miles south of Somerset, Texas (twenty miles south of San Antonio). Descriptions and data concerning other material collected in the burrows are presented by Mr. Ross in other papers † in this journal.

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† Ent. News, 55: 57-61, 115-118. 1944.